



PERFORMANCE AGREEMENT

BETWEEN

Secretary and Director General

**DEPARTMENT OF GEOLOGY AND MINES
MINISTRY OF ECONOMIC AFFAIRS**

(July 1, 2017 – June 30, 2018)

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Preamble

The Performance Agreement is entered into between the Secretary and Director General, Department Of Geology And Mines.

The objectives of this Performance Agreement are:

a) To establish clarity and consensus about annual priorities for the Department Of Geology And Mines consistent with the 11th Five Year Plan of the Ministry, and Governments other priorities;

b) To provide an objective and fair basis for evaluating the overall performance of the Department Of Geology And Mines at the end of the financial year

The Performance Agreement represents an important accountability mechanism for inculcating a performance based culture at all levels of government.

THEREFORE, the parties hereto agree as follows:

Section 1: Vision, Mission and Objectives

Vision

To contribute to sustainable socio-economic development through geo-scientific studies and scientific management of mineral resources in the Kingdom.

Mission

To enable optimal development of mineral resource in a scientific manner compatible with the social and economic policy of the Royal Government and within the framework of sustainable development, protection of environment, mineral conservation and preservation of country's precious religious and cultural heritage;
To provide input for national development and social welfare to the citizens of Bhutan by opening up venue for investment and employment;
To apply geo-scientific expertise in prevention and mitigation of natural disasters resulting from geological hazards, thus contribute to the welfare of all Bhutanese citizens leading to Gross National Happiness.

Objectives

- 1) To carry out mineral exploration and geological mapping in sustainable and environment friendly manner
- 2) To carry out geophysical investigation
- 3) To generate and enhance access to geological, mines and mineral information
- 4) To strengthen geo-scientific and mining institutional capacity
- 5) To enable legal and regulatory framework for sustainable and environment friendly mineral development
- 6) To reduce risk associated with geo-hazards
- 7) To enhance mines leasing, inspection and monitoring
- 8) To enable effective and efficient ICT Service delivery
- 9) Implement National Integrity and Anti-Corruption Strategy (NIACS)
- 10) To ensure full utilization of Budget

Section 2: Objectives, Success Indicators & Target

Objective	Weight	Action	Success Indicator	Unit	Weight	Excellent [100%]	Very Good [90%]	Good [80%]	Fair [70%]	Poor [60%]
To carry out mineral exploration and geological mapping in sustainable and environment friendly manner	20	Explore mineral deposit	Percentage of detailed geological exploration of cement grade limestone in Edi area under Mongar Dzongkhag completed	Percent	5	50	45	40	35	30
			Timeline by which the reassessment of Khothakpa Gypsum Deposit at Pemagatshel carried out	Date	5	02/28/2018	03/31/2018	04/30/2018	05/31/2018	06/30/2018
			Percentage of detailed geological exploration of dolomite deposit carried out	Percent	5	100	90-81	80-71	70-61	60
		Conduct toposheet wise geological mapping in 1:50000 scale	Percentage by which toposheet-wise mapping for topo-sheet 78I/08 and J/5 is completed	Percent	5	100	90-81	80-71	70-61	60
To carry out geophysical investigation	5	Conduct geophysical investigation of potential groundwater resource	Percentage by which Geophysical investigation of potential groundwater resource is completed	Percent	5	100	90-81	80-71	70-61	60
To generate and enhance access to geological, mines and mineral information	3	Enhance mineral registry	Percentage of cadastral map of the mines and quarries produced	Percent	3	50	40	30	20	<20
To strengthen geo-scientific and mining institutional capacity	4	Strengthen technical capacity in mining sector	Number of private mining individuals trained	Number	4	58-51	50-43	42-36	35-29	<=28

To enable legal and regulatory framework for sustainable and environment friendly mineral development	16	Revision of draft Mines and Minerals Bill 2017	Draft Mines and Minerals Bill, 2017 revised	Status of Work	3	Draft Bill revised and submitted to the Cabinet	Stakeholder consultation as per Cabinet directives	Bill not being discussed with any stakeholders	-	No improvement to the draft bill
		Amendment of Mines and Minerals Management Regulations, 2002 for implementation of MDP, 2017	Mines and Minerals Management Regulations, 2002 finalized	Status of Work	3	Final draft MMMR 2002 and present to the ministry	0	MMMR, 2002, finalized by the department	0	MMMR, 2002, in draft stage
		Implementation of Revised Taxes and Levies Act of Bhutan, 2016	Timeline by which Minimum Floor Price for the export of minerals is fixed	Date	3	05/15/2018	05/31/2018	06/15/2018	06/25/2018	Later than 06/25/2018
		Advocacy on the Mineral Development Policy, 2017	Number of workshops conducted	Number	4	3	2	1	-	0
		Implementation of Economic Development Policy, 2016	Mines Allocation Framework developed	Status of Work	1	Allocation Framework developed and endorsed by the Ministry	Draft Framework finalized by the department	Drafting of Allocation Framework completed	-	Allocation Framework in draft stage

To enable legal and regulatory framework for sustainable and environment friendly mineral development	16	Implementation of Economic Development Policy, 2016	Eligibility Criteria for mining lease developed	Status of Work	1	Eligibility Criteria developed and endorsed by the Ministry	Draft Eligibility Criteria finalized by the department	Drafting of Eligibility Criteria completed	-	Eligibility Criteria in draft initial stage
			Prospecting and Exploration Guidelines developed	Status of Work	1	Guidelines developed and endorsed by the ministry	Draft Guidelines finalized by the department	Drafting of Guidelines completed	-	Guidelines in draft stage
To reduce risk associated with geo-hazards	25	To Carry out Integrated Geo-hazard and Risk Assessment of selected critical landslides (NAPA II Project)	Timeline by which national workshop to disseminate the findings and recommendations of the integrated geohazard risk assessment of four critical landslides is conducted.	Date	3	11/15/2017	11/30/2017	12/15/2017	12/30/2017	Later than 12/30/2017
			Timeline by which the report and maps for Barsha Catchment Watershed is submitted	Date	2	09/30/2017	10/31/2017	11/30/2017	12/31/2017	Later than 12/31/2017
		To monitor six identified landslides and development of threshold (NAPA II Project)	Training on Rainfall Threshold and Landslide Monitoring conducted	Date	2	09/30/2017	10/31/2017	11/30/2017	12/31/2017	Later than 12/31/2017
			Timeline by which the report on landslide monitoring and research proposal for threshold development is submitted and ARGs are installed, tested and commissioned in 5 identified sites.	Date	3	11/15/2017	11/30/2017	12/15/2017	12/30/2017	Later than 12/30/2017

To reduce risk associated with geo-hazards	25	Installation of Earthquake monitoring sensors	Number of earthquake monitoring Broadband(BB) sensors and offline stations installed	Number	5	6 real time Broadband sensors and 2 offline stations installed	4 real time Broadband sensors and 1 offline stations installed	3 real time Broadband Sensors installed	2 real time Broadband sensors installed	1 real time Broadband sensor installed
		Operation of National Earthquake Monitoring Station	Number of weak motion (WM) monitoring stations and intensity meters (IM) operated	Number	5	7 WM & 16 IM	5 WM & 14 IM	4 WM & 10 IM	3 WM & 8 IM	2 WM & 6 IM
		To develop Landslide inventory map	Percentage of landslide inventory map of Tsirang Dzongkhag produced	Percent	5	100	90-81	80-71	70-61	60
To enhance mines leasing, inspection and monitoring	12	Implementation of Monitoring Tools	Monitoring Tool for inspection of mines and quarries implemented	Status of Work	4	Monitoring Tool adopted and circulated to 7 Regional Offices for implementation	Monitoring Tool adopted	Monitoring Tool submitted to department for endorsement	Monitoring Tool developed	Monitoring Tool still in draft stage
		Effective monitoring of mines and quarries	Percentage of biannual sampling of industrial minerals carried out from captive mines	Percent	3	100	90	80	70	60
			Timeline by which the baseline data for development of Monitoring Tool completed	Date	2	02/28/2018	03/31/2018	04/30/2018	05/31/2018	06/30/2018
			Required technical capacity employed in mines and quarries ensured	Percent	3	100-91	90-81	80-71	70-61	60

To enable effective and efficient ICT Service delivery	2	Ensure compliance to e-GIF standards	Percentage compliance to e-GIF standards	Percent	1	100	-	-	-	Less than 100
		Enhance basic ICT skills of non ICT staff members.	Percentage of non ICT staff trained.	Percent	1	50	45	40	35	30
Implement National Integrity and Anti-Corruption Strategy (NIACS)	8	Conduct face to face sensitization program on Ethics and Integrity Tools by concerned TOT participants (Gift Rules & its management, Asset Declaration Rules & its management, Conflicts of Interest Declaration & its management, Code of Conduct and Grievance Redress Mechanism)	Percentage of employees sensitized on: - Gifts, Conflicts of Interest, Code of Conduct, Asset Declaration and Grievance Redress Mechanism	Percent	2	Above 90	89-80	79-70	69-60	59 and below
		All eligible officials declare asset on time.	Percentage of employees who have declared asset on time	Percent	6	91-100	90-81	80-71	70-61	<60
To ensure full utilization of Budget	5	Ensure annual budget utilization	Percentage of annual budget utilization	Percent	5	100	-	-	-	Less than 100

Section 3: Trend values of success indicators

Objective	Action	Success Indicator1	Unit	Actual Values [FY 2013-14]	Actual Values [FY 2014-15]	Target Values [FY 2015-16]	Projected Values [FY 2016-17]	Projected Values [FY 2017-18]
Implement National Integrity and Anti-Corruption Strategy (NIACS)	All eligible officials declare asset on time.	Percentage of employees who have declared asset on time	Percent	100	100	100	100	100
	Conduct face to face sensitization program on Ethics and Integrity Tools by concerned TOT participants (Gift Rules & its management, Asset Declaration Rules & its management, Conflicts of Interest Declaration & its management, Code of Conduct and Grievance Redress Mechanism)	Percentage of employees sensitized on: - Gifts, Conflicts of Interest, Code of Conduct, Asset Declaration and Grievance Redress Mechanism	Percent	NA	NA	NA	NA	100
To carry out geophysical investigation	Conduct geophysical investigation of potential groundwater resource	Percentage by which Geophysical investigation of potential groundwater resource is completed	Percent	0	0	0	0	100
To carry out mineral exploration and geological mapping in sustainable and environment friendly manner	Conduct toposheet wise geological mapping in 1:50000 scale	Percentage by which toposheet-wise mapping for toposheet 78I/08 and J/5 is completed	Percent	15 toposheets	16 toposheets	17 toposheets	18 toposheets	19 toposheets

To carry out mineral exploration and geological mapping in sustainable and environment friendly manner	Explore mineral deposit	Percentage of detailed geological exploration of cement grade limestone in Edi area under Mongar Dzongkhag completed	Percent	0	0	20	35	50
		Percentage of detailed geological exploration of dolomite deposit carried out	Percent	0	0	0	0	100
		Timeline by which the reassessment of Khothakpa Gypsum Deposit at Pemagatshel carried out	Date	0	0	0	0	1
To enable effective and efficient ICT Service delivery	Enhance basic ICT skills of non ICT staff members.	Percentage of non ICT staff trained.	Percent	NA	NA	NA	NA	50
	Ensure compliance to e-GIF standards	Percentage compliance to e-GIF standards	Percent	NA	NA	NA	NA	100
To enable legal and regulatory framework for sustainable and environment friendly mineral development	Advocacy on the Mineral Development Policy, 2017	Number of workshops conducted	Number	0	0	0	0	3
	Amendment of Mines and Minerals Management Regulations, 2002 for implementation of MDP, 2017	Mines and Minerals Management Regulations, 2002 finalized	Status of Work	0	0	0	0	Finalize Mines and Minerals Management Regulation, 2002
	Implementation of Economic Development Policy, 2016	Eligibility Criteria for mining lease developed	Status of Work	-	-	-	-	Eligibility Criteria developed

To enable legal and regulatory framework for sustainable and environment friendly mineral development	Implementation of Economic Development Policy, 2016	Mines Allocation Framework developed	Status of Work	-	-	-	-	Mines Allocation Framework developed
		Prospecting and Exploration Guidelines developed	Status of Work	-	-	-	-	rospecting and Exploration Guidelines developed
	Implementation of Revised Taxes and Levies Act of Bhutan, 2016	Timeline by which Minimum Floor Price for the export of minerals is fixed	Date	0	0	0	2 times	3 times
	Revision of draft Mines and Minerals Bill 2017	Draft Mines and Minerals Bill, 2017 revised	Status of Work	-	-	-	-	MM Bill, 2017 submitted to Parliament
To enhance mines leasing, inspection and monitoring	Effective monitoring of mines and quarries	Percentage of biannual sampling of industrial minerals carried out from captive mines	Percent	0	0	0	0	100
		Required technical capacity employed in mines and quarries ensured	Percent	-	-	-	-	100
		Timeline by which the baseline data for development of Monitoring Tool completed	Date	-	-	-	-	Baseline data developed
	Implementation of Monitoring Tools	Monitoring Tool for inspection of mines and quarries implemented	Status of Work	-	-	-	-	Monitoring Tool adopted and implemented

To ensure full utilization of Budget	Ensure annual budget utilization	Percentage of annual budget utilization	Percent	NA	NA	NA	NA	100
To generate and enhance access to geological, mines and mineral information	Enhance mineral registry	Percentage of cadastral map of the mines and quarries produced	Percent	0	0	0	0	50
To reduce risk associated with geo-hazards	Installation of Earthquake monitoring sensors	Number of earthquake monitoring Broadband(BB) sensors and offline stations installed	Number	0	1	5	8	10
	Operation of National Earthquake Monitoring Station	Number of weak motion (WM) monitoring stations and intensity meters (IM) operated	Number	0%	20%	50%	70%	100%
	To Carry out Integrated Geo-hazard and Risk Assessment of selected critical landslides (NAPA II Project)	Timeline by which national workshop to disseminate the findings and recommendations of the integrated geohazard risk assessment of four critical landslides is conducted.	Date	0	0	0	0	1 number
		Timeline by which the report and maps for Barsha Catchment Watershed is submitted	Date	0	0	0	0	1
	To develop Landslide inventory map	Percentage of landslide inventory map of Tsirang Dzongkhag produced	Percent	0	1 number	2 numbers	3 numbers	4 numbers

To reduce risk associated with geo-hazards	To monitor six identified landslides and development of threshold (NAPA II Project)	Timeline by which the report on landslide monitoring and research proposal for threshold development is submitted and ARGs are installed, tested and commissioned in 5 identified sites.	Date	0	0	0	0	1 report, 1 research proposal and 5 ARGs installed
		Training on Rainfall Threshold and Landslide Monitoring conducted	Date	-	-	-	-	09/30/2017
To strengthen geo-scientific and mining institutional capacity	Strengthen technical capacity in mining sector	Number of private mining individuals trained	Number	23	45	62	62	120

Section 4: Definition of Success Indicators

Success Indicator	Description	Data Collection Methodology	Data Collection Frequency	Data Source
Number of earthquake monitoring Broadband(BB) sensors and offline stations installed	The department targets to install real time earthquake stations and off-line monitoring stations	Actual Progress	Annually	Administrative records, DGM, MoEA
Number of weak motion (WM) monitoring stations and intensity meters (IM) operated	Develop and adopt network architecture/blueprint on the NEMN (National Earthquake Monitoring Network). Migration of communication system of NEMN to government internet.	Actual progress	Annually	Administrative records, DGM, MoEA
Percentage of landslide inventory map of Tsirang Dzongkhag produced	Description of success indicator: 100%-Successful completion of desktop studies (Literature review planning and Digitization of landslide using google image, satellite images and Landuse Map) , all landslides are validated with attribute information , all data (general information of landslide, geological setting and landslide details as per check list is collected and the report is completed with Inventory map of Tsirang Dzongkhag within 30th June. 90-81%-Successful completion of desktop studies(Literature review , planning and digitization of landslide using google image, satellite images and Land use map) and 90% of landslides validated with attribute information as per check list (general information of landslide, geological setting and landslide details) and the report is completed with Inventory map within 30th June.	Actual progress	Annually	Asministrative records, DGM, MoEA

80-71%-Partial completion of desktop studies (Literature review and planning) and 80% of landslides validated with attribute information.as per checklist (general information of landslide and geology) and report is completed without Inventory map of Tsirang Dzongkhag within 30th June.

70-61%- Partial completion of desktop studies (Literature review) and 70%of landslides validated with attribute information as per check list (general information of landslide with no geology) and only Inventory map is produced within 30th June.

60%- Partial completion of desktop studies and 50%of landslides validated with attribute information as per check list and no report and Inventory map is submitted within 30th June.

General comments:

The area to be covered for the field validation and ground trothing for landslide inventory mapping and the duration of the study will entirely depend on the approved budget for the FY 2017-2018 and also on the accessibility of the study areas.

<p>Timeline by which the report and maps for Barsha Catchment Watershed is submitted</p>	<p>The objective of the study is to prepare integrated geo-hazards risk assessments reports and maps of the Barsa Watershed in line with project output 1.3 of NAPA II. Description of success indicator: 100% - Data processing; hazard, vulnerability and risk map preparation; interpretation and report completed and submitted within 30th September 2017. 80-89% - Data processing; hazard, vulnerability and risk map preparation and interpretation completed; but report pending within 31st October 2017. 70-79% - Data processing; hazard, vulnerability and risk map preparation completed; but interpretation and report pending within 30th November 2017. 60-69% - Data processing completed; but hazard, vulnerability and risk maps; interpretation and report pending within 31st December 2017. <60% - Data processing; hazard, vulnerability and risk maps; interpretation and report pending later than 31st December 2017.</p>	<p>Actual progress</p>	<p>Annually</p>	<p>Administrative records, DGM, MoEA</p>
<p>Timeline by which the report on landslide monitoring and research proposal for threshold development is submitted and ARGs are installed, tested and commissioned in 5 identified sites.</p>	<p>The department has been monitoring six critical landslides under NAPA II project since 2014. The objective is to understand the landslide characteristics and behaviors and make recommendations if necessary on control measures. The other objective of this study is to develop rainfall threshold for land sliding</p>	<p>Actual progress</p>	<p>Annually</p>	<p>Administrative records, DGM, MoEA</p>

using geological and rainfall parameters. However, due to lack of rainfall data, DGM is required to submit only research proposal on it. DGM is to install 5 ARGs in five critical landslides areas viz Tshimasham, Box-cutting, Arong, Moshi and Phongmey.

Description of success indicator:
100% - Final report for landslide monitoring and research proposal for rainfall threshold development for landsliding submitted and ARGs are installed, tested and commissioned in 5 identified sites within 15th November 2017.

90% - Final report for landslide monitoring and research proposal for rainfall threshold development for land sliding submitted and ARGs are installed, tested and commissioned in 5 identified sites within 30th November 2017.

80% - Final report for landslide monitoring and research proposal for rainfall threshold development for land sliding submitted and ARGs are installed, tested and commissioned in 5 identified sites within 15th December 2017.

70% - Final report for landslide monitoring and research proposal for rainfall threshold development for land sliding submitted and ARGs are installed, tested and commissioned in 5 identified sites within 30th December 2017.

60% - Final report for landslide monitoring and research proposal for rainfall threshold development for land sliding submitted and

	ARGS are installed, tested and commissioned in 5 identified sites later than 30th December 2017.			
Timeline by which national workshop to disseminate the findings and recommendations of the integrated geohazard risk assessment of four critical landslides is conducted.	<p>The objective of this workshop is to disseminate the findings and recommendations of the integrated geo-hazard risk assessment carried out for four critical landslides under NAPA II project to all the relevant stakeholders with an intent to incorporate the recommendations within their 12FYP.</p> <p>Description of success indicator: 100% - Workshop conducted within 15th November 2017. 90% - Workshop conducted within 30th November 2017. 80% - Workshop conducted within 15th December 2017. 70% - Workshop conducted within 30th December 2017. 60% - Workshop conducted later than 30th December 2017.</p>	Actual Progress	Annually	Administrative record, DGM, MoEA
Training on Rainfall Threshold and Landslide Monitoring conducted	The department will be training in house capacity and relevant stakeholders if any on Rainfall Threshold and Landslide Monitoring under NAPA II Project.	Actual Progress	Annually	Administrative record, DGM, MoEA
Percentage of detailed geological exploration of cement grade limestone in Edi area under Mongar Dzongkhag completed	<p>Detailed geological exploration of cement grade limestone in between Bagala and Idi under Mongar Dzongkhag. The target set is in cumulative and not in actual figures.</p> <p>Description of success indicator: 100% - Desktop studies and 15% of the total area covered in large scale mapping and 1 borehole drilling completed and interim geological report submitted within 30th June</p>	Actual physical progress	Annually	Administrative record, DGM, MoEA/Internet, Geoscience forums.

2018. The geological report includes geochemical analysis results and geological map of the studied area.

90%- Desktop studies and 13% of the total area covered in large scale mapping and 1 borehole drilling completed and interim geological report submitted within 30th June 2018 with pending geochemical analysis report.

80%- Only desktop studies and 11% of the area covered in large scale mapping and 1 borehole drilling completed. Interim report not submitted within 30th June 2018. Geochemical analysis pending.

70%- Only desktop studies and 9% of the area covered in large scale mapping and 1 borehole drilling completed. Interim report not submitted within 30th June 2018. Geochemical analysis pending.

60% - Only desktop studies and 7% of the area covered in large scale mapping and 1 borehole drilling completed. Interim geological report submitted later than 30th June 2018.

General comments:

The area to be covered for the geological investigation and the duration of the study depends on the approved budget for the FY 2017-2018 and also on the accessibility of the study areas. The geochemical analysis of the samples is depended on the workload of the Geochemical Laboratory and also on the

	availability of continuous water supply for carrying out the analysis.			
Timeline by which the reassessment of Khothakpa Gypsum Deposit at Pemagatshel carried out	<p>The lease term for Kothakpa Gypsum Mine (auctioned mine) expires on 31st December, 2018. In order to re-auction again, the department need to reassess the geological deposit of gypsum in the area.</p> <p>Description of success indicator: 100% - Successful completion of Desktop studies, field visit (reconnaissance), detailed topographic geological mapping of the area, chemical analysis of the samples and submission of map and report to the library within 28th February 2018. 90%- Successful completion of Desktop studies, field visit (reconnaissance), detailed topographic geological mapping of the area, chemical analysis of the samples, and map preparation with pending geological report within 31st March 2018 80%- Completion of Desktop studies, field visit (reconnaissance), detailed topographic geological mapping of the area, map preparation with pending chemical analysis of the sample survey and report within 30th April 2018. 70%- Successful completion of Desktop studies, field visit (reconnaissance), detailed topographical geological mapping of the area, with pending chemical analysis of the samples, map preparation and report submission to the library within 31st May 2018.</p>	Actual progress	Annually	Administrative record, DGM, MoEA/Internet, Geoscience forums.

	<p>60% - Successful completion of Desktop studies, field visit (reconnaissance) with pending detailed topographical geological mapping of the area, chemical analysis of the samples, map preparation and report submission to the library within 30th June 2018.</p> <p>General comments: The area to be covered for the geological investigation and the duration of the study depends on the approved budget for the FY 2017-2018 and also on the accessibility of the study areas. The geochemical analysis of the samples is depended on the workload of the Geochemical Laboratory and also on the availability of continuous water supply for carrying out the analysis.</p>			
<p>Percentage of detailed geological exploration of dolomite deposit carried out</p>	<p>Detailed geological exploration of dolomite deposit carried out.</p> <p>Description of success indicator: 100% - Successful completion of Desktop studies (literature review, planning of traversing and all pre-field activities), collection of geological data (pitting, trenching, cutting grooves, meterage along the grooves), detailed topographic geological mapping of the area, chemical analysis of the samples collected and submission of map and report to the library within 30th June 2018.</p> <p>90-81%- Successful completion of Desktop studies (literature review, planning of traversing and all pre-field activities), collection of geological data (pitting, trenching,</p>	<p>Actual progress</p>	<p>Annually</p>	<p>Administrative record, DGM, MoEA/Internet, Geoscience forums.</p>

cutting grooves, meterage along the grooves), detailed topographic geological mapping of the area, chemical analysis of the samples collected, map preparation with pending geological report within 30th June 2018.

80-71%- Successful completion of Desktop studies (literature review, planning of traversing and all pre-field activities), collection of geological data (pitting, trenching, cutting grooves, meterage along the grooves), detailed topographic mapping of the area, map preparation with pending chemical analysis of the sample collected and report within 30th June 2018.

70-61%- Successful completion of Desktop studies (literature review, planning of traversing, all pre-field activities), collection of geological data (pitting, trenching, cutting grooves, meterage along the grooves), detailed topographic mapping of the area with pending chemical analysis of the samples, map preparation and report submission to the library within 30th June 2018.

60% - Successful completion of Desktop studies (literature review, planning of traversing and all pre field activities), collection of geological data (pitting, trenching, cutting grooves, meterage along the grooves), with pending detailed topographical geological mapping of the area, chemical analysis of the samples collected, map preparation and report submission

	<p>to the library within 30th June 2018. General comments: The area to be covered for the geological investigation and the duration of the study depends on the approved budget for the FY 2017-2018 and also on the accessibility of the study areas. The geochemical analysis of the samples is depended on the workload of the Geochemical Laboratory and also on the availability of continuous water supply for carrying out the analysis. The detailed geological exploration of dolomite deposit will be carried out at Sukti Kholo, Gomtu, Samtse. Geological Survey Division will explore any possibility of auctioning the dolomite deposit.</p>			
<p>Percentage by which toposheet-wise mapping for topo-sheet 78I/08 and J/5 is completed</p>	<p>The topo-sheet wise mapping will be carried out in Tsirang-Sarpang Dzongkhag. Description of success indicator: 100% - Successful completion of Desktop studies (literature review, planning of traversing and all pre field activities), collection of geological data (geological points, rock samples), chemical analysis of the samples collected and preparation and finalization of map, cross section and report for submission to the library within 30th June, 2018. 90%-81%- Successful completion of Desktop studies (literature review, planning of traversing and all pre field activities), collection of geological data (geological points, rock samples), chemical analysis of</p>	<p>Actual Progress</p>	<p>Annually</p>	<p>Administrative record, DGM/ MoEA, Internet, Geoscience forums.</p>

the samples collected and preparation of map, cross section with pending report for submission to the library within 30th June, 2018.

71%-80%- Successful completion of Desktop studies (literature review, planning of traversing and all pre field activities), collection of geological data (geological points, rock samples), chemical analysis of the samples collected and preparation of map with pending cross section of the geological map and geological report for submission to the library within 30th June, 2018.

61%-70%- Successful completion of Desktop studies (literature review, planning of traversing and all pre field activities), collection of geological data (geological points, rock samples), chemical analysis of the samples collected with pending preparation of map, cross section of the geological map and geological report for submission to the library within 30th June, 2018.

60% - Successful completion of Desktop studies (literature review, planning of traversing and all pre field activities), collection of geological data (geological points, rock samples) with pending/incomplete chemical analysis of the samples collected, preparation of map, cross section of the geological map and geological report for submission to the library within 30th June, 2018.

General comments:

	<p>The area to be covered on the topographical map of the topo sheet of the area will depend on the duration of the study and approved budget for the FY 2017-2018 and also on the accessibility of the study areas.</p> <p>The geochemical analysis of the samples is depended on the workload of the Geochemical Laboratory and also on the availability of continuous water supply for carrying out the analysis.</p>			
Number of workshops conducted	<p>Upon the approval of the Mineral Development Policy and drafting of Mines and Minerals Bill, it is very important to advocate on the policy and the legislation. The advocacy will be carried out through seminars.</p>	Actual Progress	Annually	Administrative record, DGM, MoEA

<p>Mines Allocation Framework developed</p>	<p>The Success Indicators have been given as instruction from Hon'ble Tengye Lyonpo. The EDP,2016 requires sectoral reforms. Priority allotment of captive mines for raw material shall be provided to manufacturing industries that add value to the resource on selective basis as may be established. A Mineral Development Policy shall be adopted by 2017 to provide a holistic policy framework and a roadmap for the sustainable development of the mining sector. The Royal Government shall encourage and promote broad based participation in mining. The MoEA shall determine the framework for mining companies that need to have broad based ownership by 2018. The Royal Government shall give priority to geological mapping and investigation of minerals in the country and continue to allow exploration and prospecting through PPP model as well as by private enterprises subject to statute of limits of time to avoid speculation. The instructions to implement EDP, 2016 came after the proposal of budget. Therefore, the department does not have any budget proposed for the implementation of EDP, 2016.</p>	<p>Actual Progress</p>	<p>Annually</p>	<p>Administrative record, DGM, MoEA</p>
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<p>Eligibility Criteria for mining lease developed</p>	<p>The Success Indicators have been given as instruction from Hon'ble Tengye Lyonpo. The EDP,2016 requires sectoral reforms. Priority allotment of captive mines for raw material shall be provided to manufacturing industries that add value to the resource on selective basis as may be established. A Mineral Development Policy shall be adopted by 2017 to provide a holistic policy framework and a roadmap for the sustainable development of the mining sector. The Royal Government shall encourage and promote broad based participation in mining. The MoEA shall determine the framework for mining companies that need to have broad based ownership by 2018. The Royal Government shall give priority to geological mapping and investigation of minerals in the country and continue to allow exploration and prospecting through PPP model as well as by private enterprises subject to statute of limits of time to avoid speculation. The instructions to implement EDP, 2016 came after the proposal of budget. Therefore, the department does not have any budget proposed for the implementation of EDP, 2016.</p>	<p>Actual Progress</p>	<p>Annually</p>	<p>Administrative record, DGM, MoEA</p>
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<p>Prospecting and Exploration Guidelines developed</p>	<p>The Success Indicators have been given as instruction from Hon'ble Tengye Lyonpo. The EDP,2016 requires sectoral reforms. Priority allotment of captive mines for raw material shall be provided to manufacturing industries that add value to the resource on selective basis as may be established. A Mineral Development Policy shall be adopted by 2017 to provide a holistic policy framework and a roadmap for the sustainable development of the mining sector. The Royal Government shall encourage and promote broad based participation in mining. The MoEA shall determine the framework for mining companies that need to have broad based ownership by 2018. The Royal Government shall give priority to geological mapping and investigation of minerals in the country and continue to allow exploration and prospecting through PPP model as well as by private enterprises subject to statute of limits of time to avoid speculation. The instructions to implement EDP, 2016 came after the proposal of budget. Therefore, the department does not have any budget proposed for the implementation of EDP, 2016.</p>	<p>Actual Progress</p>	<p>Annually</p>	<p>Administrative record, DGM, MoEA</p>
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Draft Mines and Minerals Bill, 2017 revised	The Mines and Minerals (MM) Bill, 2017, was recommended to conduct another round of consultation with the stakeholders by the Cabinet. Accordingly another round consultation will be conducted before re-submitting to the Cabinet for endorsement and submission to the Parliament.	Actual progress	Annually	Administrative records, DGM, MoEA
Mines and Minerals Management Regulations, 2002 finalized	The amendment of the MMR, 2002 will be carried out to implement adequate provisions of MDP 2016 and to improve the sector.	Actual progress	Annually	Administrative records, DGM, MoEA
Timeline by which Minimum Floor Price for the export of minerals is fixed	Timeline by which Minimum Floor Price for the export of minerals is fixed	Actual progress	Annually	Administrative records, DGM, MoEA

<p>Percentage of biannual sampling of industrial minerals carried out from captive mines</p>	<p>Biannual sampling of quartzite and limestone/marble samples from 10 captive mines. This is to validate the grade variation of minerals for value addition and to ensure optimal utilization of mineral resources within the country. 100% Biannual sampling & chemical analysis of samples from 9/10 captive mines completed. 90% Biannual sampling & chemical analysis of samples from 7/8 captive mines completed. 80% Biannual sampling and chemical analysis of samples from 5/6 captive mines completed. 70% Biannual sampling & chemical analysis of samples from 4 captive mines completed 60% Biannual sampling & chemical analysis of samples from less than 4 captive mines completed. The monitoring exercise will depend on the budget available during the 17-18 FY and also on workload of the inspection & monitoring section under the Mining Division and chemical laboratory.</p>	<p>Actual Progress</p>	<p>Annually</p>	<p>Administrative record, DGM, MoEA</p>
<p>Timeline by which the baseline data for development of Monitoring Tool completed</p>	<p>The indicator is contingent to the adoption of Monitoring Tool for inspection of mines and quarries. In order to come up with the tool, the requirement of a baseline data is very important. The baseline will include parameters pertaining to mining and environment parameters. The parameters will be evaluated and developed into a baseline for individual mine/quarry.</p>	<p>Actual progress</p>	<p>Annually</p>	<p>Administrative record, DGM, MoEA</p>

Required technical capacity employed in mines and quarries ensured	The department is mandated to ensure that the mines and quarries in the country are operated/managed by a technical competent professionals. With department yearly training private individuals on mining best practices, the department aims to ensure that all mines and quarries are managed by technically competent professionals such as Blaster, Manager/Engineer, Supervisor, etc. The requirement and minimum qualification is also mentioned in the regulation. The target is in terms of percentage of number of active mines.	Actual Progress	Annually	Administrative record, DGM, MoEA
Monitoring Tool for inspection of mines and quarries implemented	The department aims to monitor the mines and quarries in the country more objectively by developing Monitoring Tool for inspection of mines and quarries. The tools will help rate/evaluate the performance of the mine/quarry operator. The renewal of mining leases will be contingent to the performance of the operator. The tool will be developed in modules. Once the tool is being developed, it will be shared to at least 4 Regional Offices for implementation. General comments: The tool may have to be familiarized with the field staffs of the Regional Offices prior to implementation based on the availability of the budget.	Actual progress	Annually	Administrative records, DGM, MoEA
Percentage by which Geophysical investigation of potential groundwater resource is completed	Geophysical ground water investigation is carried out at Gelephu under Sarpang	Actual physical progress	Annually	Administrative records, DGM, MoEA

Dzongkhag.

Description of success indicator:

100% - Successful completion of Desktop studies (literature review, planning of traversing and all pre field activities), testing of geophysical equipment, collection of geological data, water samples, soil samples, rock samples and detailed geophysical subsurface mapping of the area. Chemical analysis of the samples collected and submission of maps and report of the investigation to the library within 30th June, 2018.

90%-81%- Successful completion of Desktop studies (literature review, planning of traversing and all pre field activities), testing of equipment are done, collection of geological data, water samples and chemical analysis of the samples collected. Maps preparation with pending geophysical report within 30th June, 2018.

80-71%- Successful completion of Desktop studies (literature review, planning of traversing and all pre field activities), testing of equipment done, collection of water samples, geophysical subsurface mapping done but pending chemical analysis of the sample collected and also report within 30th June, 2018.

70-61%- Successful completion of Desktop studies(literature review, planning of traversing, all pre field activities),geophysical subsurface mapping carried out however pending chemical analysis of the

samples, map preparation and report submission to the library within 30th June, 2018.

60% - Successful completion of Desktop studies(literature review, planning of traversing and all pre field activities), testing of equipment done, collection of geological data with pending detailed geophysical subsurface mapping of the area, chemical analysis of the samples collected, map preparation and report submission to the library within 30th June, 2018.

General comments:
The area to be covered for the geophysical investigation and the duration of the study depends on the approved budget for the FY 2017-2018 and also on the accessibility of the study areas. The geochemical analysis of the samples is depended on the workload of the Geochemical Laboratory and also on the availability of continuous watersupply for carrying out the analysis.

The detailed geophysical investigations of groundwater resources will be carried out at Laudari and Dekiling area, Gelephu, Sarpang. Earthquake and Geophysics Division will explore any possibility of exploring groundwater in the area to overcome the scarcity of drinking water in the region.

<p>Number of private mining individuals trained</p>	<p>The department currently has trained 62 private individuals in order to enhance the technical capacity in the mining sector. Training on various courses like Blasting, Mining Supervisor's Training, Mining Foreman's Training and any other mining related training has been conducted by the department. The Mining Division with its internal capacity will be giving training to private individuals on any of the mentioned courses.</p>	<p>Actual Progress</p>	<p>Annually</p>	<p>Administrative records, DGM, MoEA</p>
<p>Percentage of cadastral map of the mines and quarries produced</p>	<p>Till date, the department does not have any updated cadastral map giving the locations of mines and quarries in the country. The department also procured GNSS to collect correct geo-coordinates of the mines and quarries. The target has been specified as below: 50%- It includes the collection of geo-coordinates for all mines and quarries in the 3 Regional Offices and coming up with a draft location map (in small scale) 40%- It includes only the collection of geo-coordinates for all mines and quarries in the 3 Regional Offices 30%- It includes the collection of geo-coordinates for all mines and quarries in the 2 Regional Offices and a draft location map 20%- It includes the collection of geo-coordinates for all mines and quarries in the 2 Regional Offices <20%- It includes the collection of geo-coordinates for all mines and quarries in 1 Regional Offices only.</p>	<p>Actual progress</p>	<p>Annually</p>	<p>Administrative records, DGM, MoEA</p>

<p>Percentage of employees sensitized on: - Gifts, Conflicts of Interest, Code of Conduct, Asset Declaration and Grievance Redress Mechanism</p>	<p>This indicator will measure the proportion of employees sensitized through face to face sensitization program on the above mentioned Ethics and Integrity Management Tools. The indicator will assess both the proportion of employees sensitized and the level of awareness created among the employees on the tools. Of the total weightage (100 percent), 40 percent is assigned on the delivery part and 60 percent on the level of awareness created. Further 40 percent weightage is apportioned as: 1) No. of tools sensitized – 5 tools (10%); 2) Mode of Delivery - face to face sensitization program (10%); 3) Duration - one day or more (10%); and 4) Percent of employees sensitized – 80 & above (10%). The agencies will report on the above weightage (40 percent) using the standard form developed by ACC.</p>	<ul style="list-style-type: none"> • Supporting documents from the agencies • Questionnaire based desk survey 	<p>Annually</p>	<p>Admin Data</p>
<p>Percentage of employees who have declared asset on time</p>	<p>This indicator will be measured based on the proportion of employees who have declared asset on or before the deadline provided by ACC. For the purpose of evaluation all employees who have declared asset later than deadline shall be considered as non-declarant.</p>	<p>Acc system and record with Administration section, MoEA</p>	<p>Annually</p>	<p>ACC system</p>
<p>Percentage of annual budget utilization</p>	<p>This indicator measures the amount of variation between revised budget and expenditure of an agency for a fiscal year</p>	<p>Through analysis of annual budget and expenditure</p>	<p>Annually</p>	<p>Accounts section</p>

Percentage of non ICT staff trained.	This success indicator measures the percentage of staffs other than ICT professional provided with training on basic ICT skills. This will reduce the turn around time of providing basic troubleshooting services. The training will be provided by ICT Division	Admin records on trainings conducted	Biannually	ICT division
Percentage compliance to e-GIF standards	This success indicator measures and ensures that Departments comply to e-GIF standards in all ICT related activities.	Records of e-GOV review meetings	Biannually	MoIC

Section 5: Requirements from other Departments & Secretariat Divisions

Organisation Name	Relevant Success Indicator	Requirement from the Organisation	Justification for the Requirement	Requirement detail	Impact (If Not Met)
SECRETARIAT	Percentage by which toposheet-wise mapping for topo-sheet 781/08 and J/5 is completed	Coordination with DoFPS for Permission to visit the protected area, national park and biological corridor along with collection of samples wherever necessary.	The study area falls under the protected area, ground data collection is required. If necessary some samples to be collected for analysis.	The field duration will be for 3 months and the department (team involved) would require a permit/permission to carry out field work in protected area.	Without the permit from the DoFPS the park official at the site won't allow to the team involved to enter the protected area and this would delay the timely completion of the field work.
SECRETARIAT	Percentage by which Geophysical investigation of potential groundwater resource is completed	Coordination with Gelephu Dungkhag under Sarpang Dzongkhag Administration for Permission to carry out the groundwater investigation Gelephu dungkhag under Sarpang dzongkhags jurisdiction	Groundwater is occurring under the ground. While we apply geophysical electrical resistivity survey to map subsurface, a set of equipments will be used.	Provide available information regarding the groundwater occurrence in the region. Share any report of groundwater investigation in the region. Support with providing helpers at site	Provide available information regarding the groundwater occurrence in the region. Share any report of groundwater investigation in the region. Support with providing helpers at site The report may be lacking very important past information.

SECRETARIAT	Percentage by which Geophysical investigation of potential groundwater resource is completed	Coordination with NCHM for Permit and to share rainfall data information of the study area	Groundwater is directly dependent on volume of recharge to aquifer. Hence it is very important to have detail rainfall data of the area.	Share rainfall data information of Sarpang region	Report will be incomplete
SECRETARIAT	Mines Allocation Framework developed	The indicator was instructed upon after the completion of budget proposal cycle. The department does not have any allocated budget for carrying out the indicators. The Secretariat have to escalate the budget issue with MoF.	The development of framework/guidelines need consultation with various stakeholders. Without budget the department may not be able to conduct consultation meeting	Consultation with stakeholders require budget in order to develop frameworks/guidelines	The indicators cannot be achieved.
SECRETARIAT	Eligibility Criteria for mining lease developed	The indicator was instructed upon after the completion of budget proposal cycle. The department does not have any allocated budget for carrying out the indicators. The Secretariat have to escalate the budget issue with MoF.	The development of framework/guidelines need consultation with various stakeholders. Without budget the department may not be able to conduct consultation meeting	Consultation with stakeholders require budget in order to develop frameworks/guidelines	The indicators cannot be achieved.
SECRETARIAT	Prospecting and Exploration Guidelines developed	The indicator was instructed upon after the completion of budget proposal cycle. The department does not have any allocated budget for carrying out the indicators. The Secretariat have to escalate the budget issue with MoF.	The development of framework/guidelines need consultation with various stakeholders. Without budget the department may not be able to conduct consultation meeting	Consultation with stakeholders require budget in order to develop frameworks/guidelines	The indicators cannot be achieved.

SECRETARIAT	Number of weak motion (WM) monitoring stations and intensity meters (IM) operated	Coordination with Department of IT and Telecom for full time support in communication network system	To receive data at DGM server room, it is vital that communication system is excellent at all times. We depend directly on network system.	Share and support whenever net is down or not in function	Without efficient communication network system it will be incomplete
SECRETARIAT	Timeline by which the report on landslide monitoring and research proposal for threshold development is submitted and ARGS are installed, tested and commissioned in 5 identified sites.	Coordination with NCHM for Technical support and advices in terms of goods verification, monitoring installation, testing and commissioning and final verification and handing-taking along with DGM officials.	DGM do not have expertise in Automatic Rain Gauge system (ARGS).	Rendering support by deploying relevant official(s) that may be deemed necessary by NCHM during the ARGS supply, installation, testing, commissioning and hand-taking period and beyond if deemed necessary.	The ARGS quality possibly be comprised and installation, testing and commission be incomplete.
SECRETARIAT	Percentage of non ICT staff trained.	Budget for training of non-ICT professionals	Without budget the training cannot be held	Budget for the training	The activity cannot be completed
SECRETARIAT	Percentage of cadastral map of the mines and quarries produced	For coordination with NLCS to To collect coordinates and implement it in a map (Druk –Ref System), the department requires contour points for the study area in order to get correct coordinates using GNSS instrument.	NLCS has the sole ownership for the information over the contour points.	The department requires contour locations in order to collect coordinates of mines in required format	The collection of coordinates cannot be in the required format.

Whereas,

I, the Director General, Department Of Geology And Mines, commit to the Secretary and the Minister, Ministry Of Economic Affairs to deliver the results described in this Annual Performance Agreement.

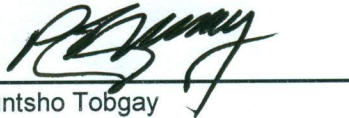
I, the Secretary, commit to the Director General, Department Of Geology And Mines to provide necessary support for the delivery of results described in this Annual Performance Agreement.

SIGNED:



Secretary

11/08/2017
Date



Phuntsho Tobgay
Director General

4/08/17
Date